Abstract Thoughts

Iatrogenic Sciatic Nerve Injury in Dogs and Cats


ABSTRACT: In this retrospective review of cases at veterinary schools in Germany and Switzerland, the clinical features of a peripheral sciatic nerve injury in 27 patients (dogs and cats) are described. All patients developed acute monoparesis after surgery (25 cases) or intramuscular injection (two) in the caudal thigh region. Neurologic dysfunction involved a sciatic (dropped hock, knuckling digits), peroneal (hyperextended hock, knuckling digits), or tibial (dropped hock, hyperextended digits) nerve lesion. Surgeries included iliosacral luxation repair (seven procedures), femoral fracture pinning (three), hip replacement (two), tibial plateau-leveling osteotomy (one), and perineal herniorrhaphy (one). Abnormal electromyographic findings were detected in all patients 5 to 10 days after injury. Immediate surgical treatment consisted of removal of an intramedullary pin, extruded cement, or entrapping suture. Delayed surgical treatment involved fibrous tissue dissection or nerve transplantation. Physiotherapy, pain management, massage, and active and passive exercise techniques were used in all patients. Within 1 year, 13 animals recovered completely, seven improved clinically, and seven (all dogs) showed no improvement. In the latter group, five patients had an acetabular or ilial fracture. In the two animals with injury-associated injury, the dog had functional recovery following nerve transplantation; the cat was euthanized. The authors concluded that iatrogenic sciatic nerve injury, although uncommon, occurred most frequently during treatment of pelvic and proximal hindlimb traumatic conditions and had a poor prognosis.

COMMENTARY: The sciatic nerve is the largest peripheral nerve in the body and is well protected, lying deeply within muscle masses and close to bone. Although uncommon, trauma to the nerve from injury, surgery, or injection of the proximal nerve or its distal branches has been described. These lesions can have a profound effect on the patient morbidity rate and the client–doctor relationship. In this relevant clinical review, the authors describe a variety of causes and treatments of iatrogenic sciatic nerve dysfunction. The results suggest that preoperative nerve assessment is critical, especially if the reported rate (26% of all peripheral nerve injuries) in this article is accurate. The authors emphasize the need to visualize the nerve during surgical procedures, avoid excessive bone manipulations or elongations, and carefully place implants. Other problems related to nerve complications associated with hip replacement, hernia repair, and injections confirm the need for practitioners to ensure that clients understand the risks involved with any medical procedure. The lack of recovery in nearly 25% of the patients is ominous; it would be worthwhile to know whether other clinical centers have similar rates.

Acute Hepatic Failure and Coagulopathy Associated with Xylitol Ingestion in Dogs

A case of xylitol ingestion by a 4-year-old Welsh springer spaniel prompted a literature review, which uncovered seven similar cases. In this case, lethargy and vomiting followed xylitol ingestion; additional signs included severe hypoglycemia and hematologic abnormalities. Necropsy after euthanasia revealed results consistent with hepatic failure.

In other cases (various breeds), primary presenting signs also included lethargy and vomiting after xylitol doses of 1.4 to 2 g/kg. Four dogs developed coagulopathy, including hemorrhaging of mucous membranes and skin and bloody feces. Common clinicopathologic changes, which were also similar to those of the first case, included increased liver enzyme levels, hyperbilirubinemia, prolonged clotting times, thrombocytopenia, hypoglycemia, and hyperphosphatemia. The treatment included intravenous fluids, plasma transfusion, antimicrobials, and dextrose. Three dogs were euthanized, two died, two recovered, and one that had been recovering could not be located. Necropsy confirmed changes of acute hepatic necrosis. Six dogs did not have early signs of hypoglycemia, but rather signs of acute hepatic failure.

Key Finding:

- Clinicians should aggressively manage dogs that have ingested xylitol (even those with no clinical signs) to avoid life-threatening effects, such as fatal hepatic necrosis. Recommendations include dextrose administration as well as monitoring of blood glucose, liver enzyme, and total bilirubin levels; platelet count; and coagulation variables. Hepatic protectants may help.